

Notice of Allowability

Application No.

10/075,123

Examiner

Kevin M Bernatz

Applicant(s)

BERTERO ET AL.

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to interview of 11/4/04.
2. ☒ The allowed claim(s) is/are 2-9, 13-15 and 17-49.
3. ☒ The drawings filed on 05 February 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 11062004.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Kenneth Leeds on November 4, 2004.

The application has been amended as follows:

- Claim 13, last line: the phrase "the time required for one revolution of said disk" was replaced with the phrase "15 milliseconds"; and
- Claim 17, last line: the phrase "the time required for one revolution of said disk" was replaced with the phrase "15 milliseconds"; and
- Claim 18, last line: the phrase "the time required for one revolution of said disk" was replaced with the phrase "15 milliseconds"; and
- Claim 27, last line: after "recording layer", the following phrase was inserted:
" , the relationship between said exchange field and the dynamic coercivity of said lower magnetic layer structure being such that locations in said lower magnetic layer structure substantially achieve their steady state magnetization state within 15 milliseconds of the end of the application of a write magnetic field to said locations"; and
- Claim 33, last line: after "recording layer", the following phrase was inserted:
" , the relationship between said exchange field and the dynamic coercivity of

said lower magnetic layer structure being such that locations in said lower magnetic layer structure substantially achieve their steady state magnetization state within 15 milliseconds of the end of the application of a write magnetic field to said locations”; and

- Claim 38, line 5: after the word “formed”, the word “directly” was inserted; and
 - Claim 38, lines 5 – 6: the phrase “lower magnetic layer structure” was replaced with the phrase “magnetically soft material”; and
- Claim 40, 4th line from end: the word “a” between “application of” and “write magnetic” was deleted; and
 - Claim 40, last 2 lines: the phrase “the time required for one revolution of said disk” was replaced with the phrase “15 milliseconds”; and
- Claim 41, last 2 lines: the phrase “the time required for one revolution of said disk” was replaced with the phrase “15 milliseconds”; and
- Claim 42, last 2 lines: the phrase “the time required for one revolution of said disk” was replaced with the phrase “15 milliseconds”; and
- Claim 45, line 3: the word “a” between “application of” and “write magnetic” was deleted.
- The Examiner wishes to note that in the amendment filed 7/20/2004, applicants have deleted the word “a” in the following claims using a “strike-through” format, which might be difficult to read: claims 13, 17 and 18 (lines 13 in each – before “the useable”), claims 19, 20 and 21 (line 9 in each – before “the useable”), claims 40, 41, 43, 44 (line 7 in each – before “locations

on”), claim 41 (line 7 – before “write magnetic fields”) and claim 44 (line 7 – before “write magnetic fields”).

Reasons for Allowance

3. The present claims are deemed allowable over the references of record since the references of record fail to disclose or render obvious the claimed antiferromagnetically coupled (AFC) magnetic layer structure combined with the claimed time to reach steady state (claims 13, 17 – 21, 27, 33, 40, 41, 43 and 44) or the use of a soft magnetic material as the lower AFC magnetic layer (claim 38).

Regarding claims 13, 17 – 21, 27, 33, 40, 41, 43 and 44, while the prior art of record disclose AFC media meeting applicants’ claimed structural limitations, the prior art of record fail to disclose or render obvious the claimed time to reach steady state. The Examiner notes that the declaration of Mr. Bertero, which illustrates that the claimed time to reach steady state is *not* inherent to the prior art AFC media, clearly demonstrates that the time to reach steady state magnetization in the lower magnetic layer is a function of the dynamic coercivity of the lower magnetic layer, in addition to other properties. Given that the disclosed property is not an inherent characteristic of AFC media, the prior art of record fails to teach or render obvious an AFC recording medium wherein “after termination of application of a write magnetic field to the useable locations on the disk the portion of the lower magnetic layer structure achieve more than 90% of their steady magnetization state within 15 milliseconds”.

Regarding claim 38, while the prior art of record disclose AFC media possessing a lower magnetic layer comprising a hard magnetic material, the prior art of record fails to teach or render obvious a "lower magnetic layer structure comprising a magnetically soft material with intergranular decoupling" wherein the "intermediate layer comprising Ru [is] formed directly over said magnetically soft material" (claim 38).

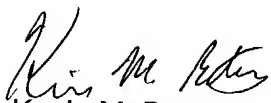
4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin M. Bernatz, PhD.
Primary Examiner

November 6, 2004